

- 1 In the claims:
- 2 1. A method for concurrently acquiring, processing, and transmitting digital video  
3 and still images, comprising:  
4 acquiring video frames from one or more image sensors;  
5 processing the video frames using a video pipeline, wherein the video pipeline  
6 includes one or more processors;  
7 temporarily storing the video frames in a frame buffer when one or more high  
8 resolution still images are acquired during the video frame acquisition; and  
9 processing the high resolution still images using a still image pipeline, wherein the  
10 still image pipeline runs concurrently with the video pipeline.
- 11 2. The method of claim 1, wherein the processing the video frames step comprises:  
12 downsampling and demosaicing the video frames; and  
13 color correcting the video frames.
- 14 3. The method of claim 1, wherein the processing the high resolution still images step  
15 comprises:  
16 downsampling and demosaicing the high resolution still images using complex  
17 demosaicing algorithms; and  
18 color correcting the high resolution still images using complex color correction  
19 algorithms.
- 20 4. The method of claim 1, further comprising compressing the video frames and the  
21 high resolution still images.
- 22 5. The method of claim 1, further comprising transmitting the video frames and the  
23 high resolution still images through communications channels.
- 24 6. The method of claim 1, further comprising storing the video frames and high  
25 resolution still images in a storage device.
- 26 7. The method of claim 1, further comprising emptying the frame buffer by the  
27 processors after the high resolution still images are processed, transmitted or stored.
- 28 8. The method of claim 1, wherein the processing the high resolution still images  
29 step includes processing the high resolution still images using the same image sensors and  
30 the same processors in the video pipeline.
- 31 9. The method of claim 1, wherein the processing the video frames step and the  
32 processing the high resolution still images step include processing the video frames and  
33 the high resolution still images using separate hardware processing pipelines.

- 1 10. A concurrent dual video and still image pipeline for a video camera system,  
2 comprising:  
3 one or more image sensors capable of acquiring video frames and high resolution  
4 still images, wherein the high resolution still images are acquired during the video frame  
5 acquisition;  
6 a sensor controller capable of storing the video frames into a memory;  
7 one or more processors capable of concurrently processing the video frames and  
8 the high resolution still images, wherein the video frames are processed using a video  
9 pipeline, and the high resolution still images are processed using a still image pipeline,  
10 and wherein the video pipeline runs concurrently with the still image pipeline;  
11 a frame buffer capable of temporarily storing the video frames when the high  
12 resolution still images are being processed.
- 13 11. The concurrent dual video and still image pipeline of claim 10, further comprising  
14 a storage device capable of storing the video frames and the high resolution still images.
- 15 12. The concurrent dual video and still image pipeline of claim 10, further comprising  
16 an input/output unit capable of transmitting the video frames and the high resolution still  
17 images through communications channels.
- 18 13. The concurrent dual video and still image pipeline of claim 10, wherein the frame  
19 buffer is emptied after the high resolution still images are processed, transmitted or  
20 stored.
- 21 14. The concurrent dual video and still image pipeline of claim 10, wherein the  
22 processors are selected from a microprocessor, an application specific integrated circuit  
23 (ASIC), and a digital signal processor.
- 24 15. The concurrent dual video and still image pipeline of claim 10, wherein the  
25 processors downsample, demosaic, and color correct the video frames.
- 26 16. The concurrent dual video and still image pipeline of claim 10, wherein the  
27 processors downsample, demosaic, and color correct the high resolution still images using  
28 complex algorithms.
- 29 17. The concurrent dual video and still image pipeline of claim 10, wherein the video  
30 pipeline and the still image pipeline use the same image sensors and the same processors.
- 31 18. The concurrent dual video and still image pipeline of claim 10, wherein the video  
32 pipeline and the still image pipeline use separate image sensors and separate hardware  
33 processing pipelines.

